After The Fire…

The environmental impacts of a wildfire go far beyond burnt trees. The potential for severe soil erosion and accelerated water runoff also exists after a wildfire due to the lack of vegetation and ground cover to stabilize the soil.

The trees, shrubs, grasses, and ground cover that comprise a healthy forest function to keep soil in place on the land. The forest canopy intercepts raindrops and reduces their impact on the soil. Rain that makes it through the canopy is filtered by the litter layer which covers the forest floor. Together, the canopy and litter layer protect the soil by preventing raindrops from detaching soil particles.

Erosion robs land of its soil and its ability to grow trees. Losing nutrient-rich topsoil diminishes productivity and greatly hinders the re-establishment of natural vegetation.

Your property is at increased risk for soil erosion if:

- The forest litter layer has burned off, exposing bare soil
- The forest canopy has burned away, reducing rainfall interception
- The fire was of high intensity causing soil to repel water
- Slopes are steep
- Rain falls in large amounts over a short period of time

Additional Resources

Links:

Texas A&M Forest Service - Water Resources:
http://tfsweb.tamu.edu/water

Texas A&M Forest Service Water Resources Blog:
http://tfswater.blogspot.com

Texas Forestry Best Management Practices Handbook:
http://tfsweb.tamu.edu/sustainable/bmp_manual

Contact Us

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TEXAS A&M FOREST SERVICE

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Wildfire Recovery

PROTECTING YOUR PROPERTY FROM SOIL EROSION

What Can You Do?

Soil washing into streams pollutes surface water and harms aquatic life.

Fortunately, there are a number of practical measures landowners can take to mitigate soil erosion caused by wildfire and to prevent sedimentation of ponds, creeks, streams, wetlands, and other surface water bodies.

- PLAN FOR EROSION CONTROL

  Recovery efforts such as land clearing, debris removal, and salvage logging should include plans for controlling erosion and sedimentation. Seek technical assistance from qualified professionals when necessary.

- PRESERVE EXISTING VEGETATION

  Whether damaged by fire or not, it is important to protect living vegetation, especially when it is located near surface waters. The roots of trees and other vegetation hold the soil in place.

- MINIMIZE SOIL DISTURBANCE

  Protect sensitive areas such as steep slopes, severely burned areas, erodible soils, and areas directly adjacent to wetlands, streams or other water bodies.

- REDUCE THE IMPACT OF LIVESTOCK

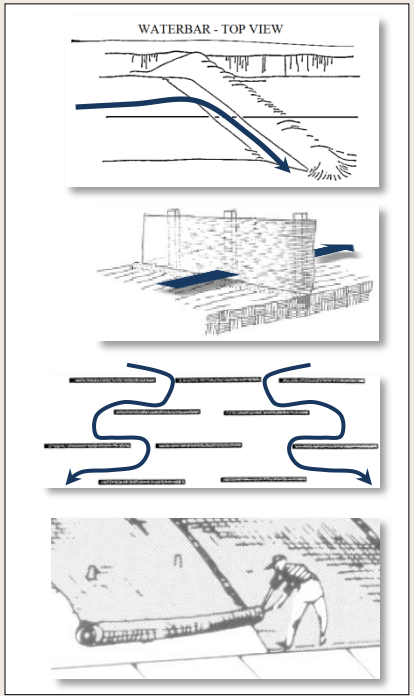
  After a wildfire, grazing may need to be deferred in some areas until plant growth has re-established.

- USE FORESTRY BEST MANAGEMENT PRACTICES WHEN SALVAGING TREES

  Forestry Best Management Practices (BMPs) are conservation practices that help protect your soil and water resources when conducting forestry operations. BMPs include practices like leaving a buffer of trees next to a stream, keeping slash and other debris out of stream channels, minimizing the number of vehicular stream crossings used to access a property, and re-establishing vegetation on temporary roads to prevent erosion.

Erosion Control Practices

Most erosion control practices are designed to hold soil in place and protect it from washing away until permanent vegetation is re-established. There are a vast number of practices that can be applied across the landscape, when necessary. Selecting the right one will depend on the erosion risk, objectives of the treatment, economics, and the specific site conditions. Technical specifications for proper implementation are available for each practice. The following are just a few of the more common methods that can be utilized to minimize soil erosion:



Waterbars

A waterbar is a constructed berm of soil that is used to divert water off roads or other disturbed surfaces to avoid the creation of gullies.

Silt Fencing

Silt fences made of woven wire and fabric filter cloth can be used as a temporary barrier to sediment-laden runoff from small areas of disturbed soil.

Contour Log Terraces

Log terraces are created by felling dead trees and placing them on the contour of a hill perpendicular to the direction of the slope and in an alternating fashion to slow runoff water.

Erosion control mats

Erosion mats cover the soil surface and are used to prevent erosion caused by rainfall impact, to hold soils in place, and to absorb and hold moisture near the soil surface to encourage re-vegetation.